

# WASTEWATER-LAND APPLICATION PERMIT

**LA-000182-01**

Kootenai-Ponderay Sewer District LOCATED AT P.O. Box 562, Kootenai, Idaho 83840 AND WITH A FACILITY LOCATED NEAR Pend Oreille Lake IN Bonner County, T57N, R2W, S1 IS HEREBY AUTHORIZED TO CONSTRUCT, INSTALL AND OPERATE A WASTEWATER-LAND APPLICATION TREATMENT SYSTEM IN ACCORDANCE WITH THE WASTEWATER-LAND APPLICATION RULES (IDAPA 58.01.17), THE WATER QUALITY STANDARDS AND WASTEWATER TREATMENT REQUIREMENTS (IDAPA 58.01.02), THE GROUND WATER QUALITY RULE (IDAPA 58.01.11), AND ACCOMPANYING PERMIT APPENDICES AND ATTACHMENTS. THIS PERMIT WILL BE EFFECTIVE AFTER THE TERMINATION OF THE TIME PROVIDED FOR ADMINISTRATIVE HEARING, AND WILL EXPIRE ON May 1, 2007.

*Gwen P. Fransen*

GWEN P. FRANSEN  
COEUR D'ALENE OFFICE REGIONAL ADMINISTRATOR  
IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY

*5/7/01*

DATE

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

2110 Ironwood Pky., Coeur d'Alene, Idaho 83814  
(208) 769-1422

## B. Permit Contents, Appendices and Attachments

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- I. Plan of Operation
- II. Site Plan Map
- III. Silvicultural Management Plan
- IV. Land Application Site Instrumentation Plan

The Sections, Appendices, and References listed on this page are all elements of Wastewater-Land Application Permit LA-000182-01 and are enforceable as such. This permit does not relieve the Kootenai-Ponderay Sewer District, hereafter referred to as the permittee, from responsibility for compliance with other applicable federal, state or local laws, rules, standards or ordinances.

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### C. Facility Information

<b>Legal Name of Permittee</b>	Kootenai-Ponderay Sewer District
<b>Type of Waste to be Land Applied</b>	Municipal Wastewater
<b>Method of Treatment</b>	Land irrigation of wastewater (slow rate)
<b>Type of Facility</b>	Lagoon treatment and storage, and land application
<b>Domestic Sewage System</b>	Kootenai-Ponderay Sewer District
<b>Domestic Water Supply System for Residents Near the Site</b>	Oden Water District
<b>Facility Location</b>	Approximately 0.75 miles north of Hwy. 200 and north of the city of Kootenai. About 1.25 miles north of Lake Pend Oreille.
<b>Legal Location</b>	136 acres in the NW quarter, S1, T57N, R2W
<b>County</b>	Bonner
<b>USGS Quad</b>	Sandpoint
<b>Soils on Site</b>	Topsoil over clay over sand/silt over clay
<b>Depth to Ground Water</b>	Upper layer- 7 feet in August. Lower layer- 50 feet
<b>Beneficial Uses of Ground Water</b>	Upper layer- not extensively utilized. Lower layer- limited usage for drinking water.
<b>Nearest Surface Water</b>	Lake Pend Oreille (about 1.25 miles), seasonal drainage channel in the south portion of the site and a seasonal stream on the eastern border of the site.
<b>Beneficial Uses of Surface Water</b>	Lake Pend Oreille – Special Resource Water, cold water biota, primary and secondary contact recreation
<b>Facility Contact Person Mailing Address Phone/Fax Number</b>	Robert Thurston, Chairman Kootenai-Ponderay Sewer District P.O. Box 562, Kootenai, Idaho 83840 (208) 263-0229
<b>Facility Consultant Mailing Address Phone/Fax Number</b>	Robert Tate, P.E., Meckel Engineering, 402 Idaho Ave., Coeur d'Alene, ID 83814 (208) 667-4638; fax: (208) 664-3347

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## D. Site Specific Permit Conditions

- 1) The Permittee is allowed to apply wastewater and treat it on a land application site as prescribed in the table below and in accordance with all other applicable permit conditions and schedules.

Category	Permitted Conditions
<b>Type of Wastewater</b>	Municipal wastewater
<b>Application Site Area</b>	136 acres organized into 14 management units as described in the Appendices
<b>Application Season</b>	Growing season application only
<b>Application Period</b>	June 1 through September 30
<b>Method of Treatment and Process Description</b>	During the non-application season, wastewater discharges into Boyer Slough in accordance with the NPDES Permit. During the application season wastewater is directly land applied after treatment through lagoons, a sand filter (optional) and chlorine disinfection.
<b>Maximum Wastewater Hydraulic Loading for Poplars</b>	Based on soil moisture monitoring criteria established through the approved "Land Application Site Instrumentation Plan". See Item F.2)., in the "Compliance Activity Description" Table (CA-000182-02).
<b>Minimum Depth to Groundwater</b>	The depth to groundwater in all three (3) groundwater monitoring wells must be at least three (3) feet from the surface before land application can occur.
<b>Buffer Zones</b>	Minimum distance to inhabited dwellings = 300 feet minimum distance to public access = 50 feet minimum distance to surface water = 50 feet minimum distance to private well = 500 feet minimum distance to public water supply well = 1,000 ft
<b>Disinfection</b>	Secondary disinfection (less than 23 total coliform organisms/100 ml).

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Category	Permitted Conditions
<b>Fence and Signs</b>	The fencing and sign requirements shall be as described in the guidance for the proposed disinfection level and a “suburban and residential” location, as follows: woven pasture fence around the site; posting with signs reading “Irrigated with Reclaimed Wastewater- Do Not Drink” or equivalent every 500 feet and at each corner of the outer perimeter of the buffer zones.

## E. Monitoring Requirements

- 1) The permittee shall monitor the operation and efficiency of all treatment facilities in accordance with the "Facility Monitoring Table" (Item E.7). The term "Hydraulic Management Unit" is abbreviated as "HMU" in these tables, and the HMUs are defined in Appendix 3. The reporting of monitoring results is described in Section G., "Reporting Requirements".
- 2) Samples shall be collected at times and locations that represent typical environmental and process parameters being monitored.
- 3) Appropriate analytical methods, as given in the *1994 Technical Interpretive Supplement*, or as approved by the Department, shall be employed.
- 4) A description of approved sample collection methods, appropriate analytical methods and companion QA/QC protocol shall be included in the facility's Plan of Operation.
- 5) The monitoring wells shall be purged a minimum of three (3) casing volumes prior to obtaining a sample of the ground water. The depth to water or static water level shall be measured prior to pumping or sampling the ground water.
- 6) Prior to starting any land application, soil monitoring should be done from two (2) selected fields. Once application begins, soil monitoring will be required from two (2) fields every three years after that. The fields should be selected based on where the largest volumes of wastewater were applied. Each soil monitoring unit shall be sampled unless otherwise directed as follows: five (5) subsamples shall be collected so as to be representative of the unit at two (2) depths, 0-12 inches and 12-24 inches, or refusal. These subsamples shall be composited by depth to yield two (2) samples per monitoring unit for analysis.
- 7) Unless otherwise agreed to in writing by the Department, data collected shall include, but not be limited to, the parameters and frequencies in the following table:

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Facility Monitoring Table

Frequency	Monitoring Point	Description and Type of Monitoring	Parameters
Daily when irrigating wastewater	Flow Meter	land-applied wastewater to each HMU by flow meter and calculation	Volume (gallons)
Daily when irrigating	soil moisture probe locations	monitor soil moisture instruments in each field being used for land application	Moisture readings as described in approved "Land Application Site Instrumentation Plan" (see item F.2., CA-000182-02)
Daily when irrigating wastewater	sampling tap prior to irrigation	grab sample of wastewater	Chlorine residual (mg/L)
Daily when irrigating wastewater	ground water monitoring wells	monitoring of static water level	static water level depth from surface (feet)
Weekly (June 1-Sept. 30) when irrigating	sampling tap prior to irrigation	grab sample of wastewater	total coliform bacteria (#/100ml.)
Monthly	N/A	loading calculation	total wastewater volume (inches and gallons/acre)
As needed basis	flow meter or calculation	supplemental irrigation water to each HMU	Volume (gallons)
Annual (in annual report)	N/A	loading calculation	total nitrogen (lbs/acre), total wastewater volume (inches and gallons/acre)
Annual (in August)	sampling tap prior to irrigation	grab sample of wastewater	nitrate-N, TKN, TDS, COD and total P

Frequency	Monitoring Point	Description and Type of Monitoring	Parameters
Twice Annually (in May and August)	Ground water monitoring wells	grab samples of ground water as described in Note 5 of this Section	nitrate-N, chlorides, total coliforms and TDS
October (prior to starting land application and 3 years after that)	Soil Monitoring Units (see Appendices)	grab samples of soil as described in Note 6 of this Section	Nitrate-nitrogen, ammonium-nitrogen, plant available P, specific conductivity and cation exchange capacity (CEC)



## F. Compliance Schedule For Required Activities

- 1) The Activities in the following table shall be completed on or before the Completion Date unless modified by the Department in writing.
- 2) The final Plan of Operation, CA-00182-05, must incorporate by reference the Silvicultural Management Plan, CA-00182-04.

Compliance Activity Number Completion Date	Compliance Activity Description
CA-00182-01  <b>3 months prior to start-up</b>	The permittee shall submit for review and approval by the Department a revised preliminary Plan of Operation.
CA-00182-02  <b>3 months prior to start-up</b>	The permittee shall submit for review and approval by the Department a "Land Application Site Instrumentation Plan". The Plan will be prepared by a consultant with expertise in soil moisture monitoring and poplar silviculture. The Plan will propose the type of soil moisture monitoring equipment that will be installed. The instruments to be installed are the following: daily precipitation and temperature instruments; soil moisture instruments; and ground water monitoring wells. Soil moisture probes will be installed in each field. The depth of the probes and the soil moisture content threshold will be determined after reviewing the proposal by the District's consultant. Ground water monitoring wells to monitor the upper ground water layer will be installed in three (3) representative locations (1 upgradient and 2 downgradient). Once approved by the Department, the "Land Application Site Instrumentation Plan" shall be incorporated by reference into this permit and shall be enforceable as a part of this permit.
CA-00182-03  <b>Submit after record drawings have been prepared</b>	The permittee shall submit to the Department a revised facility Site Plan Map that incorporates the final location of all structures and site improvements.

## F. Compliance Schedule For Required Activities

Compliance Activity Number Completion Date	Compliance Activity Description
CA-00182-04  <b>1 month prior to start-up</b>	The permittee shall submit to the Department for review and approval a Silvicultural Management Plan for the wastewater land application site. The plan shall include a management approach that will maximize the plant hydraulic use potential. The plan must be prepared by a qualified silviculturalist and shall: 1) outline initial tree planting, cultivation and harvesting methods, 2) discuss necessary management techniques between harvest periods, and 3) suggest replanting strategies and recommend harvest cycle duration.
CA-00182-05  <b>1 year after start-up</b>	The permittee shall submit for review and approval by the Department a final Plan of Operation. Upon Department approval, the final land application Plan of Operation shall be incorporated by reference into this permit and shall be enforceable as a part of this permit.
CA-00182-06  <b>3 months before permit expiration</b>	Meet with Department for pre-application conference. Submit application package of information to Department for permit renewal.

The reporting of Activities is described in Section G. "Reporting Requirements".

## G. Reporting Requirements

- 1) The permittee shall submit an Annual Wastewater-Land Application Site Performance Report ("Annual Report") prepared by a competent environmental professional no later than January 31 of each year which shall cover the previous year from November 1 through October 31. The Annual Report shall include an interpretive discussion of monitoring data (ground water, vadose zone, hydraulic loading, wastewater etc.) with particular respect to environmental impacts by the facility.
- 2) The required monitoring is described in Section E. "Monitoring Requirements". All monitoring data analyzed by a laboratory shall be submitted to the Department with the Annual Report. Sampling frequencies greater than those prescribed in the Monitoring Requirements for parameters listed shall be submitted to the Department with the Annual Report.
- 3) Notice of Completion of any work described in Section F. "Compliance Schedule for Required Activities" shall be submitted to the Department within 30 days of activity completion. The status of all other work described in Section F. shall be submitted with the Annual Report.
- 4) The reports in the following table shall be completed and submitted to the Department by the prescribed due date, unless otherwise agreed to in writing by the Department. The term "Hydraulic Management Unit" is abbreviated as "HMU" in this Section.

Reporting Summary Table

Type of Report	Report Format	Date Due	Contents
Annual Report	Preprinted DEQ annual report forms or electronic format	January 31	As stated in the "Annual Report Contents Table" in this section.
Monthly Report	Written submittal	Last day of the following month.	Daily, weekly and monthly items in the "Facility Monitoring Table" in Section E. "Monitoring Requirements".
Notice of Completion	Submittal or letter	Within 30 days of completion.	- compliance activity submittal, or - compliance activity completion notification letter
Notice of Non-Compliance	See Section H., Item 9	See Section H., Item 9	See Section H., Item 9

Annual Report Contents Table

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Item	Units
Total and average daily wastewater applied to land application site.	gallons/year, gallons/month and gallons/day
Daily chlorine residual and weekly total coliform shown together.	date, mg/L and #/100 ml.
Daily soil moisture readings.	moisture readings as described in approved “Land Application Site Instrumentation Plan” (see item F.2., CA-000182-02)
Monthly and annual flows to each HMU for wastewater and for irrigation water.	gallons/month, inches/month, gallons/year & inches/year
Annual loadings to each HMU of total nitrogen from wastewater application.	pounds/acre/year
Date and amount of crop harvested from each HMU.	date, type of material and total pounds or board-feet
Date and amount of any supplemental fertilizers added to each HMU.	date, total pounds, and pounds per acre of nitrogen, phosphorous and potassium
Laboratory test results for monitoring required in Section E.	as specified in Section E
Laboratory test results for facility monitoring not listed in Section E.	as specified in approved test methods
Status of items listed in Section F, “Compliance Schedule for Required Activities”.	written narrative
Description of any actual or potential environmental impacts resulting from the wastewater land application system.	written narrative

## H. Standard Permit Conditions: Procedures and Reporting

1. The permittee shall at all times properly maintain and operate all structures, systems, and equipment for treatment, operational controls and monitoring, which are installed or used by the permittee to comply with all conditions of the permit or the Wastewater-Land Application Permit Regulations.
2. Wastewater(s) or recharge waters applied to the land surface must be restricted to the premises of the application site unless permission has been obtained from the DEQ authorizing a discharge into the waters of the State as stated in IDAPA 58.01.02.600.02.
3. Wastewater must not create a public health hazard or nuisance condition as stated in IDAPA 58.01.02.600.03. In order to prevent public health hazards and nuisance conditions the permittee shall:
  - a. Apply wastewater as evenly as practicable to the treatment area;
  - b. Prevent organic solids (contained in the wastewater) from accumulating on the ground surface to the point where the solids putrefy or support vectors or insects; and
  - c. Prevent wastewater from ponding in the fields to the point where the ponded wastewater putrefies or supports vectors or insects.
4. As a result of the land application of wastewater, ground water of the state must not contain contaminants exceeding those values as referenced under IDAPA 58.01.11.200a, b and c of the Ground Water Quality Rule, unless otherwise specified in this permit.
5. The permittee shall:
  - a. Manage the wastewater land application treatment site as an agronomic operation where vegetative cover is grown and harvested or grazed to utilize the nutrients and minerals in the wastewater, and,
  - b. Not hydraulically overload any particular areas of the wastewater land application treatment site.
6. All waste solids, including dredgings and sludges, shall be utilized or disposed in a manner which will prevent their entry, or the entry of contaminated drainage or leachate therefrom, into the waters of the state such that health hazards and nuisance conditions are not created; and to prevent impacts on designated beneficial uses of the ground water and surface water. The permittee's management of waste solids shall be governed by the terms of the DEQ approved Waste Solids Management Plan, which upon approval shall be an enforceable portion of this permit.
7. If the permittee intends to continue operation of the permitted facility after the expiration of an existing permit, the permittee shall apply for a new permit at least six months prior to the expiration date of the existing permit in accordance with the Waste Water Land Application Permit Regulations.
8. The permittee shall allow the Director of the Idaho Department of Environmental Quality or the Director's designee<sup>1</sup> (hereinafter referred to as Director), consistent with Title 39, Chapter 1, Idaho Code, to:
  - a. Enter the permitted facility,
  - b. Inspect any records that must be kept under the conditions of the permit.
  - c. Inspect any facility, equipment, practice, or operation permitted or required by the permit.
  - d. Sample or monitor for the purpose of assuring permit compliance, any substance or any parameter at the facility.
9. The permittee shall report to the Director under the circumstances and in the manner specified in this section:
  - a. In writing thirty (30) days before any planned physical alteration or addition to the permitted facility or activity if that alteration or addition would result in any significant change in information that was submitted during the permit application process.
  - b. In writing thirty (30) days before any anticipated change which would result in non-compliance with any permit condition or these regulations.
  - c. Orally within twenty-four (24) hours from the time the permittee became aware of any non-compliance which may endanger the public health or the environment at telephone numbers provided in the permit by the Director (see below)

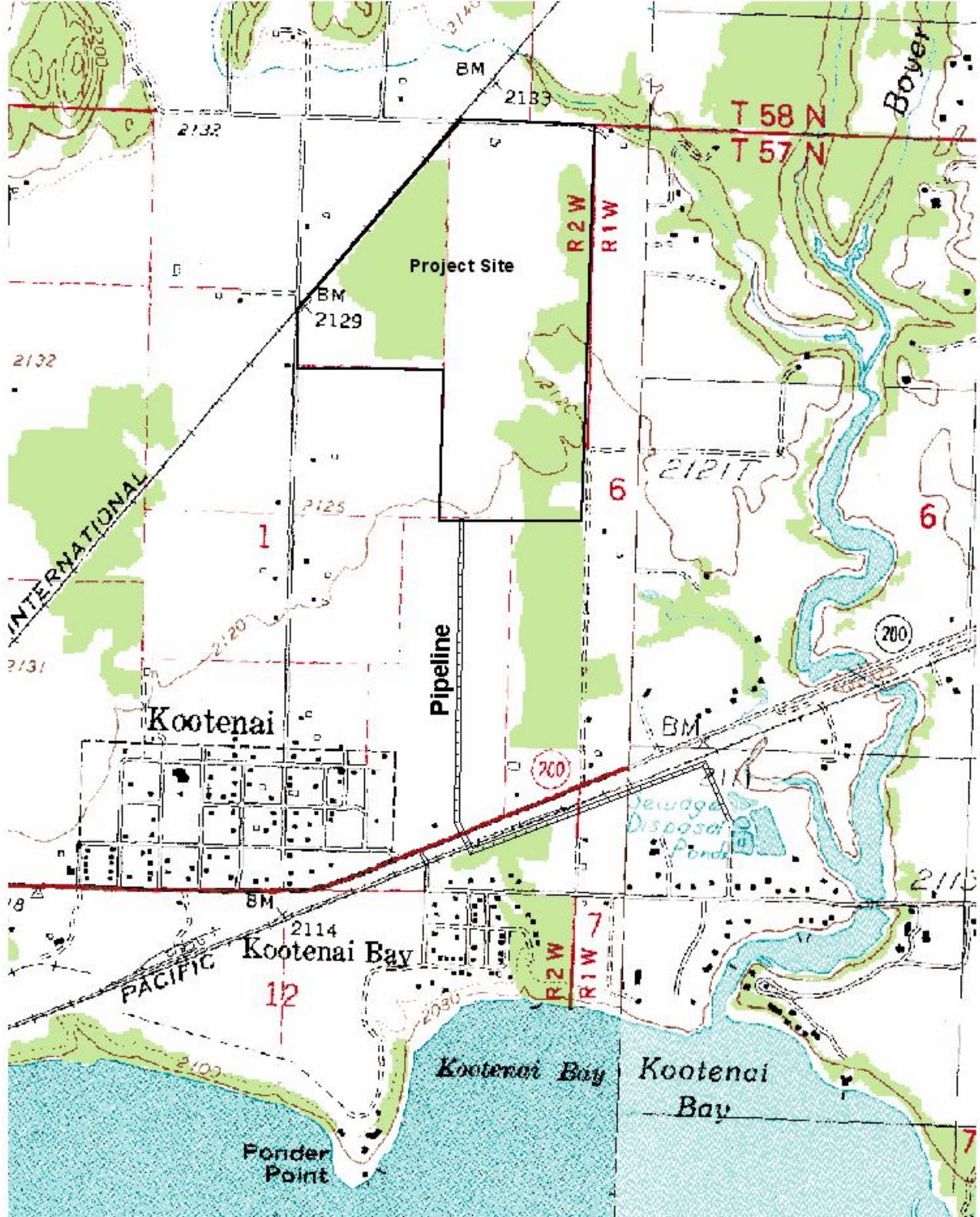
<sup>1</sup> For purposes of this permit, the Director's designee is the Administrator of the Department of Environmental Quality.

- d. In writing as soon as possible but within five (5) days of the date the permittee knows or should know of any non-compliance unless extended by the DEQ. This report shall contain:
    - i. A description of the non-compliance and its cause;
    - ii. The period of non-compliance including to the extent possible, times and dates and, if the non-compliance has not been corrected, the anticipated time it is expected to continue; and
    - iii. Steps taken or planned to reduce or eliminate reoccurrence of the non-compliance.
  - e. In writing as soon as possible after the permittee becomes aware of relevant facts not submitted or incorrect information submitted, in a permit application or any report to the Director. Those facts or the correct information shall be included as a part of this report.
10. The permittee shall take all necessary actions to prevent or eliminate any adverse impact on the public health or the environment resulting from permit noncompliance.
11. Unless otherwise stated, where an approval is required under this permit, the permittee shall submit items for approval on or before the designated date. The Department shall review the item, and shall approve the item or request revisions necessary to meet the terms and conditions this permit. In any request for revision, the Department shall include a statement indicating the relevant deficiencies. The permittee shall submit revised items within thirty (30) days of the Department's request, or as otherwise agreed by the Department; the Department shall review revised items the same as original submissions. The permittee may be required to submit additional revised items as necessary, subject to the same limitations and process for an initial request for revision. The permittee must obtain each relevant Department approval at least by the third submission of a requested item. Failure to submit a document for approval that meets the requirements of this permit in a timely manner may result in an enforcement action under this permit; however, an enforcement action shall not relieve the permittee from meeting the relevant requirement, and the permittee must continue to revise each item, as requested, until obtaining Department approval. Nothing in this paragraph forecloses any defense to the adequacy of a submission, alters any standard of review, or otherwise affects or impairs any right to review of any action or inaction of the Department that would otherwise be available to the permittee under applicable law.

## I. Standard Permit Conditions: Modifications, Violations, and Revocations

1. The permittee shall furnish to the Director within reasonable time, any information including copies of records, which may be requested by the Director to determine whether cause exists for modifying, revoking, re-issuing, or terminating the permit, or to determine compliance with the permit or these regulations.
2. Both minor and major modifications may be made to this permit as stated in IDAPA 58.01.17.700.01 and 02 with respect to any conditions stated in this permit upon review and approval of the DEQ.
3. Whenever a facility expansion, production increase or process modification is anticipated which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge that will exceed the conditions of this permit, or if it is determined by the DEQ that the terms or conditions of the permit must be modified in order to adequately protect the public health or environment, a request for either major or minor modifications must be submitted together with the reports as described in G. Reporting Requirements, and plans and specifications for the proposed changes. No such facility expansion, production increase or process modification shall be made until plans have been reviewed and approved by the DEQ and a new permit or permit modification has been issued.
4. Permits shall be transferable to a new owner or operator provided that the permittee notifies the Director by requesting a minor modification of the permit before the date of transfer.
5. Any person violating any provision of the Waste Water Land Application Permit Regulations, or any permit or order issued thereunder shall be liable for a civil penalty not to exceed ten thousand dollars (\$10,000) or one thousand dollars (\$1,000) for each day of a continuing violation, whichever is greater. In addition, pursuant to Title 39, Chapter 1, Idaho Code, any willful or negligent violation may constitute a misdemeanor.
6. The Director may revoke a permit if the permittee violates any permit condition or the Wastewater Land Application Permit Regulations.
7. Except in cases of emergency, the Director shall issue a written notice of intent to revoke to the permittee prior to final revocation. Revocation shall become final within twenty (20) days of receipt of the notice by the permittee, unless within that time the permittee request an administrative hearing in writing to the Director.
8. The Director shall notify the permittee in writing of any revocation hearing at least twenty (20) days prior to the date set for such hearing. The hearing shall be conducted in accordance with Title 67, Chapter 52, Idaho Code.
9. If, pursuant to Idaho Code 67-5247, the Director finds the public health, safety or welfare requires emergency action, the Director shall incorporate findings in support of such action in a written notice of emergency revocation issued to the permittee. Emergency revocation shall be effective upon receipt by the permittee. Thereafter, if requested by the permittee in writing the Director shall provide the permittee a revocation hearing and prior notice thereof. Such hearings shall be conducted in accordance with Title 67, Chapter 52, Idaho Code.
10. The provisions of this permit are severable and if a provision or its application is declared invalid or unenforceable for any reason, that declaration will not affect the validity or enforceability of the remaining provisions.
11. The permittee shall notify the DEQ at least six (6) months prior to permanently removing any permitted land application site from service. Prior to commencing site closure activities, the permittee shall: a) participate in a pre-site closure meeting with the DEQ; b) develop a site closure plan that identifies specific closure or cleanup tasks with scheduled task completion dates in accordance with agreements made at the pre-site closure meeting; and c) submit the completed site closure plan to the DEQ for review and approval within forty-five (45) days of the pre-site closure meeting. The permittee must complete the DEQ approved site closure plan.

# Appendix 1: Area Map





## Appendix 2: Site Map

### Appendix 3: ENVIRONMENTAL MONITORING Computerized Data Reporting Serial Number Key

Hydraulic Management Units (HMU)	Area (acres)	Serial Number
Field 1	4.96 acres	HMU-018201
Field 2	5.01acres	HMU-018202
Field 3	4.88 acres	HMU-018203
Field 4	4.87 acres	HMU-018204
Field 5	4.95 acres	HMU-018205
Field 6	4.87 acres	HMU-018206
Field 7	4.95 acres	HMU-018207
Field 8	4.87 acres	HMU-018208
Field 9	5.55 acres	HMU-018209
Field 10	4.98 acres	HMU-018210
Field 11	4.98 acres	HMU-018211
Field 12	5.23 acres	HMU-018212
Field 13	10.0 acres	HMU-018213
Field 14	3.51 acres	HMU-018214
WASTEWATER SAMPLING POINTS		
Serial Number	Description	
WW-018201	Wastewater prior to land application	
SOIL SAMPLING Soil Monitoring Units (SMU)		
Serial Number	Description	
SMU-018201	Field ?(report which field was sampled)	
SMU-018202	Field ?(report which field was sampled)	

<b>GROUND WATER SAMPLING POINTS</b>	
<b>Serial No.</b>	<b>Description</b>
GW-018201	Monitoring Well (MW) #1(upgradient)
GW-018202	MW #2(downgradient)
GW-018203	MW #3(downgradient)